



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,319	10/17/2001	William N. Partlo	2001-0095-1	4334

7590

05/22/2003

Cymer, Inc.
Legal Department - MS/1-2A
16750 Via Del Campo Court
San Diego, CA 92127-1712

EXAMINER

MONBLEAU, DAVIENNE N

ART UNIT PAPER NUMBER

2828

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

P-5

Office Action Summary	Application No.	Applicant(s)	
	10/029,319	CYMER, I NC	
	Examiner	Art Unit	
	Davienne Monbleau	2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

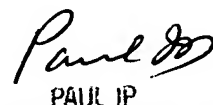
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.



PAUL IP

**SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

The Amendment filed on 3/3/03 has been entered. Claim 1 was amended. Claims 1-6 and 9-19 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically taught or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-6 and 9-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hofmann et al. (U.S. Patent No. 6,034,984) in view of Larson et al. (U.S. Patent No. 5,770,933). Regarding Claim 1, Hofmann et al. teach in Figure 1b an electric discharge laser comprising a laser chamber (102), a laser gas (108), electrodes (118 and 120), a discharge region (122), and a tangential fan (140). It is inherent that there is a pulse power source. Hofmann et al. further

Art Unit: 2828

teach in Figure 2a that said fan comprises a plurality of blade members (214) and a plurality of hub members (212) defining fan blade segments (210), wherein said blade members are at an acute angle with said rotation axis; in column 5 lines 6-56 that said blade members minimize adverse effects in said discharge region of reflection of discharge generated acoustic shock waves from said blade members; in column 7 lines 37-42 a double helix pattern; in column 6 lines 5-7 that said fan has 18 sections, and hence 18 hub members; in the abstract machining said blade members and said hub members as a monolithic unit from a single block; in column 1 lines 59-61 that it is known in the art that fans have may have a rotation rate of 3800 rpm. Hoffman et al. teaches in columns 9 and 10 machining a particular diameter. Determining the optimum diameter involves routine skill in the art. Hoffman et al. do not teach a pulse repetition of greater than 3,700 Hz. Larson et al. teach in column 3 lines 26-38 that achieving high repetition pulse rates is dependant upon a high rotation of the fan. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the high rotation rate of the fan to produce a high pulse repetition rate, as taught by Larson et al., to create smaller integrated circuits using lithography techniques. (See Larson et al. column 1 lines 12-34).

Regarding Claim 2, Hofmann et al. teach in Claim 3 an odd number of blade members.

Regarding Claim 3, Hofmann et al. teach in Claim 4 that said blade member has an airfoil cross-sectional shape.

Regarding Claim 4, Hofmann et al. teach in Claim 5, that said hub members are disposed transversely relative to said rotation axis, and that the number and axial placement of said hub members controls the natural frequency of bending mode vibration of said fan.

Art Unit: 2828

Regarding Claim 5, Hofmann et al. teach in Claim 6 that the natural frequency of bending mode vibration of said fan is greater than twice the rotation frequency of said fan.

Regarding Claim 6, Hofmann et al. teach in Claim 7 the material of said fan.

Regarding Claim 9, Hofmann et al. teach in Figure 4f that said blade members have a cross section corresponding to an arc of a circle.

Regarding Claim 10, Hofmann et al. does not teach the radii of the circle cross-section. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use specific radii since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding Claims 11 and 13, Hofmann et al. does not teach that said blades are positioned asymmetrically within each section. However, Hofmann et al. does teach in column 5 to column 6 that asymmetrical blade configurations minimize in-phase reflection of shock energy. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use asymmetrically positioned blade members, as taught by Hofmann et al., to reduce laser output energy fluctuations.

Regarding Claims 12 and 14, Hofmann et al. teach in column 5 line 66 to column 6 line 4 that said blade members in adjacent sections are positioned asymmetrically.

Regarding Claim 15, Hofmann et al. teach in Figure 4f that said blade members have first and second circular arc cross sections defining a convex surface and a concave surface, respectively.

Regarding Claims 16 and 17, Hofmann et al. does not teach the respective radii and origin of said circle cross-sections. It would have been obvious to one of ordinary skill in the art at the time of the invention to use specific radii since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding Claims 18 and 19, Hofmann et al. teach in Figure 3c that said blade elements comprise two cylindrical surfaces (320), and a pointed leading edge.

Response to Arguments

Applicant's arguments with respect to claims 1-6 and 9-19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sarkar et al. teach in column 2 lines 5-13 that increased pulse repetition rates is dependant upon a higher fan speed and in column3 lines 32-34 that the preferred fan speed is 3300 – 5000 rpm.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 703-306-5803. The examiner can normally be reached on Mon-Fri 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 703-308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Application/Control Number: 10/029,319

Page 6

Art Unit: 2828

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Darienne Marbleau

DNM

May 7, 2003

Paul IP
PAUL IP
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800